



**California Department of Forestry and Fire Protection**  
**Overview and Background**  
**of**  
**Threatened or Impaired Watershed Rules**

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STATE OF CALIFORNIA



***My presentation will cover three main topics:***

**Actions Leading to Development of Threatened and  
Impaired Watershed Rules**

**Board of Forestry Rule Changes  
Since 1998 Pertaining to T & I Watershed Protection**

**Overview of  
CDF Monitoring Programs**



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**Actions Leading to Development of  
Threatened and Impaired Watershed Rules**

**October 1995**

**Final Report on the Implementation and Effectiveness of the  
Watercourse and Lake Protection Rules**

- Interagency Qualitative Approach
- CDF, DFG, NCRWQCB, LRWQCB, CVRWQCB, CCRWQCB, CGS (DMG), and RPFs
- "When considered as a whole, . . . the watercourse and lake protection rules are applicable on a majority of [THPs], implemented correctly most of the time, and generally effective in protecting water quality."
- Issues identified:
  - Winter period Operations
  - Class III Protection
  - Restorable Uses of Water for Fisheries

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**Actions Leading to Development of  
Threatened and Impaired Watershed Rules**

**1996**

**The State Fish and Game Commission  
Listed Coho Salmon  
South of San Francisco Bay  
as Threatened  
Under the State Endangered Species Act  
(CESA)**

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**Actions Leading to Development of  
Threatened and Impaired Watershed Rules**

**1999  
Report of the Scientific Review Panel  
(SRP)**

- The SRP was created under the auspices of the Watershed Protection and Restoration Council, as required by the March 1998 MOA between NMFS and the Resources Agency.
- The SRP concluded "the FPRs, including their implementation (the 'THP process') do not ensure protection of anadromous salmonid populations."

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**Actions Leading to Development of  
Threatened and Impaired Watershed Rules**

**July 6, 1999  
The State Water Resources Control Board  
and  
The North Coast Regional Water Quality Control Board  
Petition the Board of Forestry to Adopt Regulation Changes to Address  
Water Quality Issues**

- An Interagency Technical Team was assembled to prepare a consensus package of proposed rule amendments focused on watersheds that contain or drain to waters containing ESA-Listed salmonids (The T&I Rules).
- The T&I rule package was jointly submitted to the Board of Forestry by the Resources Agency and Cal EPA.
- Regulations proposed under the petition were much broader than those finally brought to the Board.
- Legislation was passed to allow the T&I Rules to be adopted mid-year.
- The T&I Rules were passed by a unanimous vote of the Board.

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**Board of Forestry and Fire Protection  
Rule Changes Since 1998  
Related to Salmonid Protection  
OVERVIEW  
Coho Considerations  
(January, 2000)**

- Require evaluation of impacts to watershed resources based upon both on-site and off-site cumulative effects to beneficial uses of water as defined in the Basin Plans
- Clarify that actual measurements may be required to evaluate impacts to watershed resources
- Clarify that a plan must comply with the water quality objectives of the Basin Plans
- Require greater description of locations and impacts from past activities
- Require new information and substantial changes to a THP be provided to reviewing agencies and the public for a sufficient period for review and comment

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**Board of Forestry and Fire Protection  
Rule Changes Since 1998  
Related to Salmonid Protection  
OVERVIEW  
Protection and Restoration in Watersheds  
with Threatened and Impaired Values**

- First effective July 1, 2000 through December 31, 2000 (SB 621)
- Extended January 1, 2001 through December 31, 2001
- SB 234 (2001) proposed a Legislative extension for 1 year, tied to the Board's funding.
- Extended January 1, 2002 through December 31, 2002 (w/ minor edits)
- Extended January 1, 2003 through December 31, 2003
- Last extended January 1, 2004 through December 31, 2006 (w/ minor edits)

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- Require permanent watercourse crossings to accommodate the estimated 100-year flood flow, including debris and sediment loads
- Require Department collaborate with RWQCB and SWRCB to prioritize watersheds and
  - conduct or participate in further assessment or analysis of watersheds as needed
  - participate in development of Total Maximum Daily Load (TMDL) problem assessment, source assessment, or load allocations related to timber operations
  - If existing rules are deemed insufficient, develop recommendations for watershed specific silvicultural implementation, enforcement and monitoring practices.

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- Defines the IWMA evaluation area be no smaller than a watershed containing a third order watercourse and no larger than a CalWater planning watershed
- Defines limiting factors for anadromous salmonids to include  
water quality      nutrients      large woody debris      water quantity  
sedimentation                              water temperature
- Requires landowner to
  - identify limiting factors and site specific watershed conditions
  - propose mitigation measures addressing site specific conditions
  - specify proposed evaluation methodology (monitoring)
  - confer early in the process with review team agencies

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**CDF Supported  
Post Management Agency Agreement (MAA)  
Monitoring Efforts:**



- **Caspar Creek Watershed Study**
- **Hillslope Monitoring Program**
- **Modified Completion Report Monitoring**
- **Cooperative Monitoring Projects**
- **Supported Projects to Address Key Issues**

**Caspar Creek Watershed Study**

- Cooperative project between CDF and the USFS—Pacific Southwest Research Station.
- One of longest continuously running watershed studies in U.S.—began in **1962**.
- Strong financial support by CDF—approximately \$200K/year.

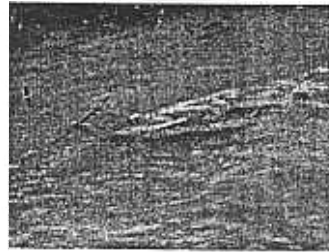
## **Caspar Creek Results**

### **Biological Impacts**

North Fork logging produced little or no evidence of sediment impacts to aquatic insect communities.

(stone flies, may flies, and caddis flies)

Variability was high, but no dramatic changes in the abundance of coho salmon or steelhead trout were recorded after the North Fork logging



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## **Caspar Creek Instream Monitoring**

### **Current and Planned Work**

Nine new stations in the South Fork established in 2001 to collect data on

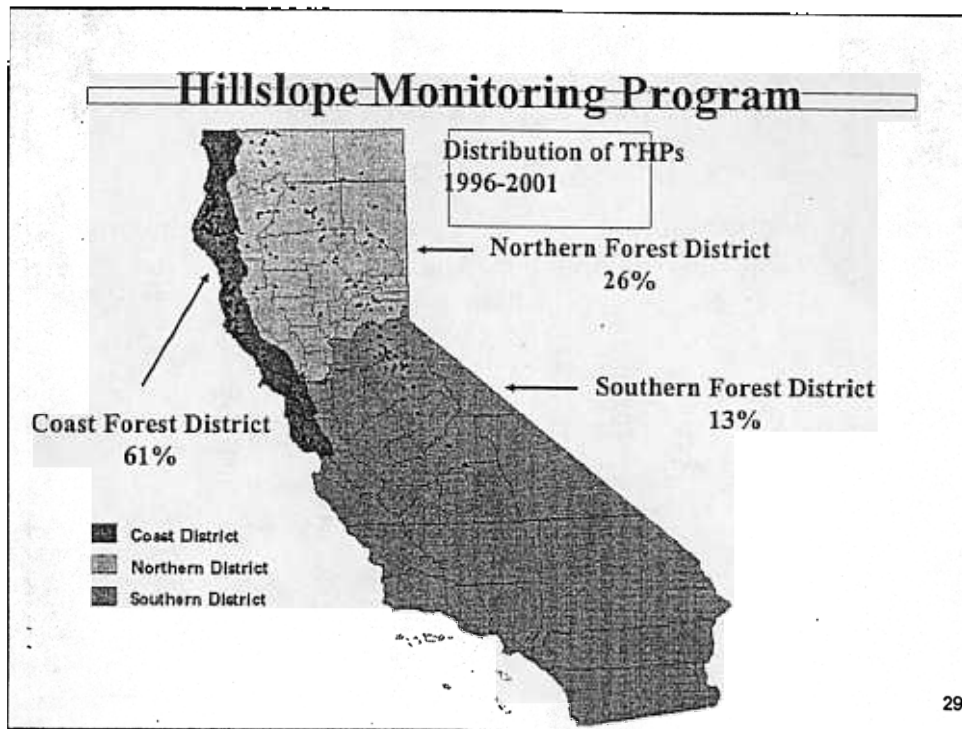
- sediment yield and
- flow prior to additional treatment.

South Fork project later in decade to

- determine effects of unevenage management and
- measure effects of mitigation work to address legacy road, skid trail, and landing problems.

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### Hillslope Monitoring Program 1999 HMP Results

- ◆ Individual practices required by the FPRs were generally effective in preventing hillslope erosion features.
- ◆ Erosion features were almost always associated with improperly implemented FPRs.
- ◆ Erosion problems on skid trails and landings were infrequent and produced minor impacts to water quality.
- ◆ Most problems were found on roads and at crossings.

## **Modified Completion Report Monitoring**

- Started in 2000
- Use CDF's Forest Practice Inspectors to collect monitoring data.
- 12.5% of all THPs completed are monitored.
- Roads, WLPZs, and Crossings evaluated.
- Inspections done when logging completed and after stressing storms.
- To date, 105 THPs sampled, 82 with WLPZs.
- Randomly located 200 ft WLPZ segments; a 50 point grid and a sighting tube are used for measurement.

## **Cooperative Monitoring Projects**

**Goal:** establish cooperative watershed  
monitoring projects in selected basins  
for long-term instream trend  
monitoring

Selected Basins for Instream Trend Monitoring to date:

**Garcia River Watershed**

## **Supported Projects Addressing Key Issues**

### **GOALS**

- Support selected monitoring projects that can provide critical information related to monitoring techniques, monitoring efforts.
- Support selected monitoring projects that can answer key questions regarding forest practice implementation and effectiveness.

## **Examples of Supported Research Projects**

**Testing Indices of Cold Water Fish Habitat**  
Knopp (1993)

**Erodible Watershed Index**  
McKittrick and Spittler (1994)

**Evaluation of Road Stream Crossings**  
Flanagan et al. (1998)

**V-Star Tests in Varying Geology**  
Lisle and Hilton (1999)

**Sediment Composition as an Indicator of Stream Health**  
Dr. Mary Ann Madej, USGS, and Dr. Peggy Wilzbach,  
HSU (in progress)

**Central Sierra Nevada Sediment Study**  
Dr. Lee MacDonald, CSU (in progress)